

# PATENT SPECIFICATION

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## (54) ELECTRICAL CONNECTOR

(71) We, CANNON ELECTRIC (GREAT BRITAIN) LIMITED, a British Company, of Lister Road, Winchester Road, Basingstoke, Hampshire, England, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an electrical connector for making connections between a multi-conductor flat strip cable and a plurality of round cables or electrical wires.

In our Patent Specification No. 1317264 there is disclosed an electrical connector element for making connections between a pair of multi-conductor flat strip cables. Such an element essentially comprises a member of an electrical insulating material having a portion of generally U-cross-section the web of the U being rounded, around which a strip cable may be mounted, and two generally parallel legs projecting in the same direction from the ends of the sides of said U-shaped portion, said legs being so spaced that the U-portion of a similar element can be fitted snugly between them, in which there are slots at the junction of the said legs and the sides of the U-shaped portion through which a strip cable mounted around said U-portion is threaded when the element is in use, and in which a said strip cable which is so mounted has its conductors bared on the strip surfaces within said legs and around said U-portion. When two such elements are each loaded with a flat strip cable the projecting U-portion of one of the elements is pushed between the legs of the other element to make the required connections between the two cables.

According to the present invention there is provided an electrical connector element, including a body of an electrical insulating material having a front portion with a forward-facing slot and a rear portion with at least one row of individual cavities each

of which communicates with the slot, and electrical contact members each located in one of said cavities, wherein each said contact member has a rearward portion to which an electrical wire may be secured both electrically and mechanically, a forward contact blade portion extending into the slot and means to retain the contact member in its cavity, wherein the front portion has locking means adapted to co-operate with complementary locking means of a mating connector element when the last-named element is mated with the element to bring its own contact members into engagement with the contact blades in the slot, wherein the mating element has a portion of generally rectangular cross-section which is inserted into said slot to effect the mating, and which carries the complementary locking means, and wherein the locking means and the complementary locking means include on one of the two elements to be mated holes at the end of that element each having a forward-facing slit and on the other of the two elements to be mated pins at the ends of that other element each of which pins is received in one of said holes when the elements are mated.

An embodiment of the invention will now be described with reference to the drawings accompanying the Provisional Specification, in which Fig. 1 is a perspective view of an electrical connector element according to the invention and its method of attachment to a mating connector, and Fig. 2 is a perspective view showing details of a contact member and the cavity in which it is inserted.

The electrical connector element comprises a moulded, generally rectangular, housing 1 having a front portion 2 with a slot 3. The rear portion 4 has a row of cavities (not visible in Fig. 1), into which electrical contact members are inserted. The contact members, see Fig. 2, each have a rear portion 5 into which the bared end of an electrical wire may be crimped or otherwise

the contact blades in the slot, wherein the mating element has a portion of generally rectangular cross-section which is inserted into said slot to effect the mating and which carries outwardly-extending pins at its ends to form the complementary locking means, wherein the locking means on the element are formed by holes in the end-walls of the slot each of which has a forward-facing slit, and wherein when the mating element is inserted into the connector element to mate therewith said pins each enters one of the holes in the connector element end walls via its said slit.

15 3. An element as claimed in claim 1 or 2, and wherein two rows of said cavities are provided, so that two rows of contact elements can be catered for.

4. An element as claimed in claim 1, 2 or

3, wherein each said contact element is inserted into its one of said cavities from the rear side of the connector element, wherein each said contact element has a springy tang struck from its blade portion which when the contact element is inserted is received in front of a rear-facing shoulder to lock the contact element in, and wherein a groove is provided at the front face for each said contact cavity into which a tool may be inserted to unlock a contact.

5. An electrical connector element substantially as described with reference to the drawings accompanying the Provisional Specification.

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